

PURCHASE DESCRIPTION

X-Y RECORDER

RX0NT-C

1.0 GENERAL This procurement requires a high performance X-Y recorder with analog inputs and RS-232 control of recorder/plotter functions.

2.0 CLASSIFICATION The equipment shall meet the requirements of MIL-T-28800(), Type III, Class 5, Style E, Color R for Navy shipboard, submarine, and shore applications with the following modifications and exceptions:

- a. The Electromagnetic Interference requirements of MIL-T-28800() are limited to CE01, CE03, (relaxed 20 dB), CS01, CS06, RE01 (relaxed 20 dB / limit search below 20 KHz / back panel search excluded), RE02 (14 kHz to 10 GHz), and RS03.

3.0 OPERATIONAL REQUIREMENTS

3.1 Main Frame

3.1.1 Paper Size: The writing surface shall accommodate paper sizes no larger than 216 x 280 mm (8-1/2 x 11 in).

3.1.2 Paper Holddown: The paper holddown shall be of the electrostatic type or pinch rollers in order to accommodate various paper sizes and to require no periodic maintenance other than cleaning.

3.1.3 Pens: A fast drying, disposable fiber tipped pen shall be used in the writing system.

3.1.4 Zero Set: Zero reference shall be capable of being placed anywhere on the writing area.

3.1.5 Writing Speed: Shall be at least 1,300 mm/second (51.2 in/second)

3.1.6 Linearity: Shall be $\pm 0.15\%$ of full scale or better.

3.1.7 Resettability: Shall be better than $\pm 0.2\%$ full scale.

3.1.8 Pen Lift: Local and remote control via contact closure or TTL level.

3.1.9 Range Vernier: The range vernier shall be a continuous adjustment overlapping adjacent ranges, and shall be lockable.

3.2 DC Preamplifiers

3.2.1 X-Y Input Ranges: Shall be at least 0.5 mV/cm to 20 V/cm.

- 3.2.2 X-Y Inputs: Floating signal pairs shall be available through front panel or rear connectors. Input shall be capable of being operated up to ± 200 Vdc with respect to chassis ground.
- 3.2.3 Accuracy: $\pm 0.3\%$ of full scale or better
- 3.2.4 Input Impedance: The input impedance shall be a constant 1 Megohm (or greater) on all ranges.
- 3.2.5 Common Mode Rejection: The common mode rejection shall be 100 dB minimum for dc and 90 dB minimum for ac.
- 3.3 Internal Time Base: An internal time base capability is required for Y-T applications in plotting a single input versus the internal time reference.
- 3.3.1 Sweep Times: Shall include a minimum of four settings over a range of at least 1.25 to 20 sec/in.
- 3.3.2 Accuracy: At least $\pm 3.0\%$ of full scale
- 3.3.3 Linearity: At least $\pm 1.0\%$ of full scale

4.0 GENERAL REQUIREMENTS

- 4.1 Power: 115/230 Vac $\pm 10\%$ single phase, 50, 60 or 400 Hz, 150 VA maximum
- 4.2 Lithium Batteries: Per MIL-T-28800, lithium batteries are prohibited without prior authorization. Requests for approving the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.
- 4.3 Dimensions: (W) 500 mm; D 350 mm; H 150 mm (19.6 in x 13.7 in x 5.9 in) maximum
- 4.4 Weight: 11 kg (24.5 lb) maximum
- 4.5 Calibration Interval: The calibration interval shall be 12 months minimum. The equipment shall be within all accuracy requirements specified herein, with a 72% or greater confidence factor following a calibration interval of 12 months.
- 4.6 Remote Control: An RS-232 connector (25-pins) shall be included to provide a computer control interface.
- 4.6.1 Functions controlled via RS-232:
 - X/Y Axis preamp gain settings
 - Zero position setting
 - Vernier setting
 - Pen raise/lower
 - Time sweep setting
 - Time sweep start